

### ABSTRACT OF THE DISCLOSURE

An optical radiation sensor device for detecting radiation in a radiation field having a thickness. A preferred embodiment of the device includes a radiation source and a radiation sensor element positioned to receive radiation from the radiation source. A motor (or other motive means) is provided to alter the thickness of the radiation field from a first thickness to a second thickness. The sensor element is capable of detecting and responding to incident radiation from radiation source at the first thickness and at the second thickness. The optical radiation sensor device allows for determination of radiation (preferably ultraviolet radiation) transmittance of a fluid of interest.